



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX**

75 Hawthorne Street
San Francisco, CA 94105

MEMORANDUM

DATE: JAN 31 2013

SUBJECT: Request for a Time-Critical Removal Action at the Sheldon Mine Site, Walker, Yavapai County, Arizona

FROM: Daniel Shane,
Emergency Response Section (SFD-9-2)

THROUGH: Harry L. Allen, Chief *HA*
Emergency Response Section (SFD-9-2)

TO: Daniel Meer, Assistant Director
Superfund Division (SFD-9)

I. PURPOSE

The purpose of this Action Memorandum is to obtain approval to spend up to \$1,218,000 in direct costs to mitigate threats to human health and the environment posed by the presence of mine tailings wastes at the Sheldon Mine Site, ("Site"). The Site is located approximately 2 miles southeast of the Town of Walker, in Yavapai County, Arizona.

The Action Memorandum would serve as approval for the expenditure required for U.S. EPA, as the lead technical agency, to take actions described herein to abate imminent and substantial endangerment to neighboring residents posed by hazardous substances at the Site. The proposed removal of hazardous substances would be undertaken pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9604(a)(1), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 C.F.R. § 300.415.

II. SITE CONDITIONS AND BACKGROUND

Site Status: Non-NPL
Category of Removal: Time-Critical
CERCLIS ID: AZ0000309245
SITE ID: 09LN

A. Site Description

1. Physical Location

The Site is situated on patented private lands within un-incorporated areas of the Bradshaw Ranger District of the Prescott National Forest. The former Sheldon Mine area includes two mine waste areas separated by approximately 0.1 miles. The first area is the Site, including the Sheldon Mine Tailings Pile, which is located to the southeast and is approximately 3.2 acres in size. The second area, the Sheldon Mine Waste Rock Pile, is located to the northwest and is approximately 3.5 acres in size. The Sheldon Mine Waste Rock Pile may be addressed in a future removal action.

The geographic coordinates of the Site are 34° 26' 50" N latitude and 112° 23' 48" W longitude. The Site is located in Township 12 ½ N, Range 1 W, Sections 19 and 30 on the Groom Creek, AZ (7.5-minute) topographic quadrangle. See Figure 1 for a Site Location Map.

2. Site characteristics

The Site is located near the headwaters of Lynx Creek, approximately 200 feet north of the creek and approximately seven miles upstream from the Lynx Lake reservoir. Lynx Lake is a popular recreational destination for swimming, fishing and boating. The Site is situated up-gradient and to the north of Eagle Road in a rural residential area. The Site consists of at least 10,000 cubic yards of tailings mine waste (the depth of the material is unknown). There are approximately 25 residences located within 0.2 miles of the Site.

The Lynx Creek watershed has a long history of mining activity from the 1860s through 1950s. The Sheldon Mine was one of the larger mining operations, and recovered copper, gold, silver, lead and zinc. According to historic records, a 1,200 foot deep shaft, large head frame structure and hoisting machines were located at the top of the Sheldon Mine waste rock pile. The Sheldon Mine tailings pile was the former location of the tailings pond. A major pollution source in the watershed was traced to both the abandoned waste rock pile and the tailings pond.

In 1975, the Prescott National Forest and the University of Arizona, School of Renewable Resources formed a cooperative agreement to reclaim the tailings pond. Severely eroded banks were graded and sloped, and 100 tons of limestone was applied. Six to eight inches of topsoil were spread over the site and seeded with native grasses. Although the reclamation produced a dramatic improvement in runoff control and aesthetic impact, there has been significant weathering of the cap over time from wind and water erosion.

The Site is comprised of a moderate slope, approximately 40 feet in height, and oriented in a north-south direction. There is a narrow bench partially up the slope. Beyond the slope crest, the slope is a relatively flat area with sparse vegetation consisting of scattered grasses and small pine trees. There is seepage at the slope face as evidenced by a light-colored precipitate on the ground surface, extending from the lower one-third of the slope to near the toe, and the lack of vegetation. The perimeter drainage ditch is filled with sediment and no longer serves its intended purposes of conveying flows around the Site. This has led to erosion and failure of portions of the existing cap and migration of additional tailings to down-gradient areas via surface water runoff. Additionally, surface subsidence has created a low area on top of the pile where water collects and seeps into the pile. This may generate mine influenced water ("MIW").

3. Removal site evaluation

On March 29, 2005, EPA collected field screening samples to support sampling plan design for a removal site evaluation. On June 21st and 22nd, 2005, EPA collected surface and subsurface soil samples for lead and arsenic analysis. Ten percent of these samples were analyzed for micronutrients as well. A systematic random sampling approach was used and the number of samples was determined based on the screening data. Three study areas were established: the waste rock pile ("WR") and stream bank ("SB") area below the WR, and the tailings pile ("TP"). Sampling results for the tailings pile showed that arsenic concentrations were significantly above the EPA's Regional Screening Level ("RSL") and Arizona's Soil Remediation Level ("SRL") in surface and subsurface soils. Lead concentrations were above the EPA's RSL in the subsurface soils.

Removal Assessment Analytical Results for Lead and Arsenic

Study Area	Mean Soil Conc. (mg/kg)	90% Confidence Interval (mg/kg)	Average Background Concentration (mg/kg)	EPA RSLs/AZ SRLs (residential) (mg/kg)
Stream Bank (SB)			Lead: 95 Arsenic: 11	Lead: 400/400 Arsenic: 22/10
Lead	274 (S)	393 (S)		
Arsenic	77 (S)	107 (S)		
Waste Rock (WR)				
Lead	103 (S), 299 (SS)	198 (S), 354 (SS)		
Arsenic	74 (S), 125 (SS)	108 (S), 163 (SS)		
Tailings Pile (TP)				
Lead	170 (S), 557 (SS)	192 (S), 707 (SS)		
Arsenic	39 (S), 39 (SS)	63 (S), 62 (SS)		

All results are soil samples collected by ecology & environment (START), in June 2005. Note: bolded results indicate that measured concentrations exceeded applicable health-based benchmarks. S - surface soil sample, SS - subsurface.

In July 2005, EPA, conducted a geotechnical evaluation of the Sheldon Mine. The evaluation identified Site slope stability considerations for site stabilization design purposes.

On May 15, 2012, EPA and the U.S. Forest Service ("USFS") conducted a Site walk to discuss removal alternatives for repairing the cap, drainage systems and other erosion control measures to mitigate the release of mine waste into small tributaries of Lynx Creek and reduce the flow of Acid Mine Drainage ("AMD"). The USFS has a borrow area and a rock quarry that could be used to provide soil and rock materials for the restoration work.

On June 19, 2012, EPA conducted a site inspection with David Reisman and John McKernan, EPA's ORD Engineering Technical Support Center. The purpose of the inspection was to evaluate the feasibility of treating the AMD seeps emanating from the waste rock pile by passing the flow through a Bio-Chemical Reactor. The use of this treatment technology was rejected at this time due to the following reasons: (1) there was insufficient data to design the treatment system; (2) there was insufficient space within the narrow streambed to construct the reactor; (3) the surface was solid bedrock and excavation would be extremely costly and; (4) the reactor would have to be built beyond the site boundaries and on private land. It was ORD's opinion that due to the complexity

of the Site and paucity of data, much more effort was needed to characterize the hydro-dynamics of the waste rock pile and that EPA resources would be better utilized on restoring the cap and drainage systems at the tailings pile. During this visit, EPA collected samples of mine wastes that had been transported from the tailings pile via storm water runoff and deposited in a drainage leading to Lynx Creek. The maximum concentration of lead in sediment was reported at 1,800 mg/kg. The maximum concentration of arsenic in sediment was reported at 42 mg/kg. EPA also collected laboratory samples of the soils in the USFS soil borrow area to ensure it had proper geotechnical properties for cap material and did not have a potential to generate MIW. The source of the soils was the material that had been dredged from sediment dams on Lynx Creek above Lynx Lake reservoir.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Tailings were observed at or near the ground surface on the tailings slopes and drainages. Rain events have caused erosion, mobilization, and migration of some of the exposed tailings. Tailings waste in the downstream tributary to Lynx Creek demonstrates the high mobility that the tailings possess in the presence of flowing water. These tailings contain elevated levels of lead and arsenic exceeding health-based benchmarks (*i.e.*, EPA RSLs and AZ Soil Remediation Levels (SRLs)). Additionally, fine grained materials are likely transported off site by wind erosion. The downstream and downwind migration of mine wastes impacts residential properties and Lynx Creek.

5. NPL status

This Site is not on the National Priorities List (NPL). In August 2002, EPA conducted a preliminary assessment/site investigation ("PA/SI") of the Hassayampa/Lynx Creek Abandoned Mines (CERCLIS ID No. AZ5120090068) Site. The PA/SI report included three mine sites located within the Lynx Creek watershed, including the Sheldon Mine. The Hazard Ranking System was utilized to evaluate the Sheldon Mine Site (as two separate sources) along with one other mine waste source. The following is a list of the sources, which were evaluated in aggregate.

- | | | |
|---|---------------------------------------|--------------|
| • | Blue John Mine | AZSFN0905574 |
| • | Sheldon Tailings | AZ0000309245 |
| | and Sheldon Waste Rock (Sheldon Mine) | |

The PA/SI report identified actual and/or threatened releases of hazardous substances at the Sheldon Mine Site.

B. Other Actions to Date

In 1975 and 1976, the University of Arizona School of Renewable Resources and the Prescott National Forest attempted an experimental restoration project at the Site. The USFS Surface Environment and Mining Program funded an effort to grade and cover the Sheldon Mine waste rock and tailings pond. Slopes of the Site were also hydro-seeded and runoff control structures were installed. EPA's recent Site visits and sampling events document the failure of this restoration attempt to mitigate continued releases of hazardous substances. No other response actions have occurred at the Site to date.

C. State and Local Authorities' Roles

1. State and local actions to date

The ADEQ Superfund Division and Water Division have been contacted during the course of Site assessment and planning activities. Based on communications with ADEQ, EPA has determined that ADEQ is not planning to take action to mitigate threats posed by contamination at the Site.

EPA received a letter from ADEQ on February 2, 2007, requesting federal assistance with a response action and waiving notice otherwise required under Section 128(b)(1)(D) of CERCLA with respect to the proposed removal action at the Site. ADEQ also provided five substantive technical comments that EPA will consider during any removal action planning.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Current Site conditions pose the threat of potential future releases of hazardous substances. These substances include arsenic, lead and other heavy metals present within mine tailings, contaminated soils and sediments. In addition, the migration of contaminated tailings into the Walker community poses threats to human health or welfare or the environment. The likelihood of direct human exposure, via ingestion and/or inhalation of hazardous substances, and the threat of potential future releases and migration of those substances, may pose an imminent and substantial endangerment to public health, and/or welfare, or the environment based on the factors set forth in the NCP, 40 C.F.R. § 300.415(b)(2). These factors include:

1. Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations or the food chain

High concentrations of heavy metals, including but not limited to arsenic and lead, have been detected in samples of tailings, soil and sediments. There has been extensive weathering and erosion of the cap since the 1975-76 restoration project exposing heavy metal-laden soils. Much of the contaminated material is very fine-grained and therefore likely to result in human exposure via inhalation or ingestion. Mine wastes containing documented hazardous substances may be entrained in naturally and mechanically generated dust and transported by water, by wind or on the shoes and/or clothing of persons passing over the Site.

Analytical results indicate that concentrations of heavy metals identified in these media exceed background, EPA RSLs and Arizona's SRLs. Direct human contact with dust containing metals, via inhalation or ingestion, may result in eye, skin, nose, and/or lung irritation. Inhalation of inorganic arsenic can cause throat and lung irritation. Ingestion of arsenic can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, and damage to blood vessels. Direct contact with arsenic may cause redness and swelling of the skin. Prolonged exposure may lead to symptoms such as peripheral neuropathy and hyper pigmentation of the skin. Arsenic exposure also increases the risk of several types of cancer. Exposure to MIW through direct dermal contact may also result in skin, nose, and eye irritation.

Mine tailings at the Site are readily accessible to nearby part-time and/or full-time residents and other persons that utilize the area for recreational purposes. The Site is in the center of burgeoning residential area and is directly adjacent to a well-traveled road (Eagle Road). At least 25 structures (mostly residences) are located within 0.2 miles of the Site. Persons living in close proximity to tailings, or engaging in recreational activities on or in close proximity to the Site are likely to come into contact with uncontrolled hazardous substances present within the mine wastes. Recreational activities in the vicinity of the Site include hiking, biking, use of all-terrain vehicles (ATVs) and dirt-bikes, and camping. Children have been observed riding ATVs on the Site.

High concentrations of metals in sediments have likely manifested in toxic impacts to the environment. According to a U.S. Fish & Wildlife report in May 2003, Lynx Lake was unable to support a self sustaining sport fishery due to the levels of metals and trace elements present in the water and sediment in contrast to other lakes in the area. The sources of contamination was chronic AMD from abandoned mine tailings and overburden and, in particular, Sheldon Mine. Metal contamination of the aquatic food chain had been documented. Avian predators at this Site were potentially at risk from exposure to metals through their prey.

2. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

Analytical results from sediment analysis suggest that tailings in the ephemeral stream corridor contain hazardous substances. Visual observation suggests that tailings are likely washed into the tributary and Lynx Creek during high-flow periods. Regionally, stream-flow is dominated by winter snowmelt and summer monsoons, disappearing completely during exceptionally dry periods such as early summer. The mean annual precipitation is approximately 19 inches.

Wind erosion also may result in migration of hazardous substances. Portions of the tailings pile are fully exposed to wind. Fine-grained materials containing lead and arsenic may be transported from the Site and deposited on roads and on residential properties.

3. Threat of fire or explosion

There is no threat of explosion at the Site; however, wildfires are a common occurrence in the region. A nearby fire might exacerbate conditions at the Site. Wildfires may destroy nearby vegetation leading to increased runoff impacts. Higher erosion rates would increase the likelihood of tailings deposition into surface water bodies or onto surfaces where persons may more easily come into contact with metals contamination. Furthermore, vegetative loss in the area may also increase the likelihood of wind erosion and off-site deposition, thereby increasing the likelihood of exposure.

4. Availability of other appropriate federal or State response mechanisms to respond to the release

The Site is located on private land and is therefore not under the jurisdiction of any other federal agency. State authorities have not expressed interest in taking action at the Site. The state has been notified of EPA's intention to respond to the release at the Site.

IV. ENDANGERMENT DETERMINATION

Actual and threatened releases of hazardous substances from this Site, if not addressed by implementing a Time-Critical Removal Action may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

EPA proposes to mitigate threats to human health, welfare, or the environment by taking steps to reduce potential or actual risks to human and ecological receptors from impacted tailings, soils, sediment and MIW from the tailings pile. The primary objectives of the removal action will be to implement erosion control measures to reduce arsenic and lead enriched tailings in surface runoff, reduce the infiltration of water into the piles thereby reducing MIW, and remove existing contaminated sediments from the bottom and banks of ephemeral stream leading to Lynx Creek. These objectives will be met by taking the following actions:

- Excavate and consolidate the upper 1-2 feet of contaminated sediment on banks and bottom of drainage downstream of tailings pile back onto the pile;
- Excavate clean sediment from existing water diversion ditches, place and compact the material onto the failed areas of the tailings pile;
- Install concrete cloth, stilling basins and a perforated pipe French drain system in the diversion ditches on the north and east sides of the tailings pile;
- Construct an inlet structure and install a buried high-density polyethylene (HDPE) culvert pipe to route clean water down the west side of the tailings pile;
- Construct a sediment basin/inlet structure on the north side of Eagle Road. Route runoff from the diversion ditches, perforated culvert pipe and the cap to this structure;
- Replace and enlarge, as necessary, the culvert beneath Eagle Road to receive higher runoff flows. Construct an outlet/energy dissipation structure at the outlet;
- Install inlet and outlet structures and a new 36-inch diameter HDPE culvert across East Walker Road to receive higher runoff flows;
- Restore both Eagle Road and East Walker Road after new culvert installations in accordance with ADOT-approved standards for road construction;

- Import fill materials from the existing USFS borrow area located approximately 8 miles from the Site. Install a clean soil cap on the tailings pile in areas where the cap has failed. The cap material will consist of two feet of imported fill and will result in approximately 3,050 cubic yards of cap material being placed and graded on the tailings pile;
- Apply and mix approximately 3-5 percent organic matter (i.e., compost, biosolids) into the upper 6 inches of soil. Re-vegetate cap surface using trees and plant species per USFS specifications; and
- Install temporary erosion control measures and re-vegetate disturbed areas as necessary

2. Contribution to remedial performance

Long term remedial action at the Sheldon Mine Site is not currently anticipated at this time. This removal action would mitigate threats from the tailings pile, but not address potential wastes in the waste rock pile at the Site.

The long-term cleanup plan for the site:

It is expected that this removal action will eliminate any threat of direct or indirect contact with or inhalation of hazardous substances at the Site. Additionally, the removal action will decrease loading of contaminants into the Lynx Creek watershed.

Threats that will require attention prior to the start of a long-term cleanup:

There is no long-term cleanup planned for this Site; however, EPA Region 9 may evaluate other mine waste sites within the watershed based on time-critical considerations.

The extent to which the removal will ensure that threats are adequately abated:

The removal and/or stabilization of abandoned, above ground hazardous substances will mitigate threats posed by the Site.

Consistency with the long-term remedy:

The time-critical removal action proposed for the Site is consistent with addressing mine waste issues within the Lynx Creek Watershed and is not inconsistent with any potential long-term remedial activities, although none are planned or anticipated at this time.

3. Description of alternative technologies

The use of biosolids is considered to be an alternative technology. Biosolids consist of composted municipal sewage sludge and various soil amendments. Biosolids may be applied to the mine tailings and metals-contaminated soils. Biosolids can be used to capture and bind metals within the soil structure, thereby decreasing human and eco-toxicity. Research conducted by the EPA, the USDA and others have shown that this technology is feasible and cost-effective and can significantly reduce high concentrations of bio-available metals in soil.

4. Applicable or relevant and appropriate requirements (ARARs)

Section 300.415(j) of the NCP provides that removal actions must attain ARARs to the extent practicable, considering the exigencies of the situation.

Section 300.5 of the NCP defines applicable requirements as cleanup standards, standards of control, and other substantive environmental protection requirements, criteria or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at a CERCLA site.

Cleanup standards will be based upon the EPA RSL's and AZ SRLs for lead and arsenic in soil, or may be based upon a comparison to background concentrations in the immediate vicinity of the Site.

Section 300.5 of the NCP defines relevant and appropriate requirements as cleanup standards, standards of control and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular site.

Because CERCLA on-site response actions do not require permitting, only substantive requirements are considered as possible ARARs. Administrative requirements such as approval of, or consultation with administrative bodies, issuance of permits, documentation, reporting, record-keeping, and enforcement are not ARARs for the CERCLA actions confined to the site.

The following ARARs have been identified for the proposed response action. All can be attained.

Federal ARARs: The Clean Water Act controls the discharge of pollutants to surface waters of the United States. EPA will protect against discharge of pollutants to Lynx Creek during excavation and removal of contaminated sediment in the drainage channel downstream of the tailings pile. This will be accomplished by excavating contaminated sediments to base rock, excavating only during dry weather conditions and when the channel has no flowing water that could mobilize the contaminants.

State ARARs: None identified at this time. EPA will consider the SRLs in the selection of a cleanup level as stated above.

5. Project schedule

The project is scheduled to begin in April 2013. It is estimated that removal activities will take approximately 5 weeks to complete. Additional work may be required if revegetation and/or other erosion controls are not immediately successful or are compromised due to extreme weather.

B. Estimated Costs

Regional Removal Allowance Costs:

Total Cleanup Contractor Costs	\$ 857,000
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Other Extramural Costs Not Funded from the Regional Allowance:

START Contractor Costs	\$ 132,000
USCG PST Costs	16,000
ERT Costs	10,000
Subtotal Extramural Costs	\$ 1,015,000
Extramural Costs Contingency (20%)	<u>203,000</u>
TOTAL, Removal Action Project Ceiling	\$ 1,218,000

In addition to the extramural costs estimated for the proposed action, a cost recovery enforcement action also may recover the following intramural costs:

Intramural Costs¹

U.S. EPA Direct Costs	\$ 50,000
U.S. EPA Indirect Costs (36.19%)	<u>\$ 458,889</u>
TOTAL Intramural Costs	\$ 508,889

The total U.S. EPA extramural and intramural costs for this removal action, based on full-cost accounting practices that will be eligible for cost recovery, are estimated to be \$1,726,889.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the site conditions, the nature of the hazardous substances documented on site, and the potential exposure pathways to nearby populations described in Sections III and IV above, actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response actions selected in this memorandum, may continue to present an imminent and substantial endangerment to public health, or welfare, or the environment.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues with the Site identified at this time.

VIII. ENFORCEMENT


Please see the attached Confidential Enforcement Addendum for a discussion regarding enforcement against potentially responsible parties.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Sheldon Mine Site, in Walker, Yavapai County, Arizona, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Because conditions at the Site meet the NCP criteria for a time-critical removal Action, EPA enforcement staff recommends the approval of the removal action proposed in this memorandum. The total project ceiling if approved will be \$1,218,000, of which an estimated \$857,000 comes from the Regional Removal Allowance. Approval may be indicated by signing below.

Approve:



Daniel Meer, Assistant Director, Superfund Division

Date: 31 January 2013

Disapprove:

Daniel Meer, Assistant Director, Superfund Division

Date: _____

Enforcement Addendum

Attachments:

1. Index to the Administrative Record
2. Photograph Log

cc: Sherry Fielding, USEPA, OERR, HQ
Pat Port, U.S. Department of Interior
Harry Hendler, Manager, Remedial Projects Section, Arizona Department of
Environmental Quality
H. Allen, SFD-9-2
A. Helmlinger, ORC-3
J. Jaros, SFD-9-2
C. Temple, SFD-9-2
Site File

ATTACHMENT I
INDEX TO THE ADMINISTRATIVE RECORD

1. Final Preliminary Assessment/Site Inspection Report, Abandoned Mines within the Lynx Creek Watershed, Prescott, Arizona. Prepared by: Weston Solutions, Inc., August 29, 2002.
2. Environmental Contaminants Program, Off-Refuge Investigations Sub-Activity, AZ-Contaminants in Fish and Wildlife of Lynx Lake, Arizona, Department of the Interior, U.S. Fish & Wildlife Service, Region 2, May 2003.
3. Sheldon Stabilization Final Assessment Report. Prepared by Ecology & Environment, Inc., October 14, 2005.
4. Limited Geotechnical Evaluation Sheldon Mine. Prepared by Ninyo & Moore, August 31, 2005.
5. Correspondence from Samantha Roberts, Manager, Remedial Projects Section, AZ Department of Environmental Quality, to: Peter Guria, Chief, Emergency Response Section, U.S. EPA Region 9. Subject: Sheldon Mine – EPA Time-Critical Removal Action, February 2, 2007.
6. Analytical Testing Results for Sheldon Mine. Prepared by Ecology & Environment, Inc., July 16, 2012.

**ATTACHMENT II
PHOTOGRAPH LOG**



Photograph 1 - View of the Sheldon Tailings Pile facing north.



Photograph 1 – View of heavy metal contaminated sediment in drainage downstream of Sheldon Tailings Pile facing south. Drainage flows to Lynx Creek.